

Mood effects on interpersonal preferences: evidence for motivated processing strategies

Forgas, Joseph P.

Veröffentlichungsversion / Published Version
Forschungsbericht / research report

Zur Verfügung gestellt in Kooperation mit / provided in cooperation with:
GESIS - Leibniz-Institut für Sozialwissenschaften

Empfohlene Zitierung / Suggested Citation:

Forgas, J. P. (1991). *Mood effects on interpersonal preferences: evidence for motivated processing strategies*. (ZUMA-Arbeitsbericht, 1991/03). Mannheim: Zentrum für Umfragen, Methoden und Analysen -ZUMA-. <https://nbn-resolving.org/urn:nbn:de:0168-ssoar-68867>

Nutzungsbedingungen:

Dieser Text wird unter einer Deposit-Lizenz (Keine Weiterverbreitung - keine Bearbeitung) zur Verfügung gestellt. Gewährt wird ein nicht exklusives, nicht übertragbares, persönliches und beschränktes Recht auf Nutzung dieses Dokuments. Dieses Dokument ist ausschließlich für den persönlichen, nicht-kommerziellen Gebrauch bestimmt. Auf sämtlichen Kopien dieses Dokuments müssen alle Urheberrechtshinweise und sonstigen Hinweise auf gesetzlichen Schutz beibehalten werden. Sie dürfen dieses Dokument nicht in irgendeiner Weise abändern, noch dürfen Sie dieses Dokument für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, aufführen, vertreiben oder anderweitig nutzen.

Mit der Verwendung dieses Dokuments erkennen Sie die Nutzungsbedingungen an.

Terms of use:

This document is made available under Deposit Licence (No Redistribution - no modifications). We grant a non-exclusive, non-transferable, individual and limited right to using this document. This document is solely intended for your personal, non-commercial use. All of the copies of this documents must retain all copyright information and other information regarding legal protection. You are not allowed to alter this document in any way, to copy it for public or commercial purposes, to exhibit the document in public, to perform, distribute or otherwise use the document in public.

By using this particular document, you accept the above-stated conditions of use.

Mood Effects On Interpersonal Preferences:
Evidence For Motivated Processing Strategies

Joseph P. Forgas

ZUMA-Arbeitsbericht Nr. 91/03

Zentrum für Umfragen, Methoden und
Analysen e.V. (ZUMA)
Postfach 12 21 55
6800 Mannheim 1

Seit Juli 1983 sind die ZUMA-Arbeitsberichte in zwei Reihen aufgeteilt:

Die ZUMA-Arbeitsberichte (neue Folge) haben eine hausinterne Begutachtung durchlaufen und werden vom Geschäftsführenden Direktor zusammen mit den übrigen Wissenschaftlichen Leitern herausgegeben. Die Berichte dieser Reihe sind zur allgemeinen Weitergabe nach außen bestimmt.

Die ZUMA-Technischen Berichte dienen zur hausinternen Kommunikation bzw. zur Unterrichtung externer Kooperationspartner. Sie sind nicht zur allgemeinen Weitergabe bestimmt.

**MOOD EFFECTS ON INTERPERSONAL PREFERENCES:
EVIDENCE FOR MOTIVATED PROCESSING STRATEGIES**

Joseph P. Forgas

University of New South Wales

Sydney, Australia

Running head: Interpersonal preferences

Support for this research by the Australian Research Council, the German Research Foundation (DFG), and ZUMA, Mannheim, Germany, is gratefully acknowledged. Requests for reprints should be sent to Joseph P. Forgas, School of Psychology, University of New South Wales, P.O. Box 1, Kensington 2033, Sydney, Australia; email: forgas@mathvax.maths.unsw.oz.au

Abstract

Are interpersonal choices influenced by mood? Three experiments found that information search and decision strategies when selecting a partner are significantly influenced by feeling state and the personal relevance of the task. Personal choices by dysphoric subjects in particular were based on 'motivated processing strategies', looking for, remembering and using more effectively information about rewarding personal characteristics in a future partner. In Experiment 1 (N=60), sad subjects preferred rewarding to competent partners, and remembered better information supporting that choice. In Experiment 2 (N=96), motivated processing led to information selectivity, greater decision speed, and a distinct processing strategy. Experiment 3 (N=42) used computerized stimulus presentation, and found that sad subjects selectively chose and looked at interpersonal information, remembered it better, and were faster in choosing a rewarding partner. The results are interpreted as evidence for motivated mood-repair strategies in interpersonal choices. The implications of the findings for research on interpersonal relations, and for contemporary affect-cognition theories are discussed.

Are people's interpersonal preferences motivated by mood? In both our private and working lives, we are often faced with the task of making preference choices about people. Selecting a work partner, deciding who to sit next to at lunch today, who to approach at a cocktail party, who to invite to a dinner party, or who to approach for advice on a personal matter are examples of such person preference tasks. This series of experiments explores the motivational role of temporary mood states in interpersonal choices, and the information processing strategies used by people in such decisions. Motivated processing is defined as involving directed search strategies and selective attention focus on information that is diagnostic of potentially rewarding outcomes, and consequent biases in choice outcomes as well as recall memory.

Interpersonal preferences

Interpersonal choice is a central feature of every social relationship, at every level from unilateral awareness to enduring intimacy (Levinger & Snoek, 1972). The decision of whether to engage in an interaction with a partner is one of the most common, yet complex and demanding tasks, and most social relationships by definition involve recurring positive partner choices. Such decisions - as indeed most social judgments - usually involve highly elaborated, constructive cognitive processes dealing with often not directly observable personal characteristics (Heider, 1958). Choices are typically made on the basis of selective information, requiring detailed further inference and interpretations. There is now growing recent evidence that affect can play an important role in the way information about another person is attended to, selected, interpreted, learned, remembered and evaluated (Bower, 1981; 1990; Clore & Parrott, Fiedler, 1990; 1990; Forgas, 1990; Forgas & Bower, 1987; Forgas, Bower & Krantz, 1984; Isen, 1984; Schwarz & Bless, 1990). Clinical research also suggests that enduring affective states, such as depression, have a marked influence on interpersonal judgments and decision-making. Depressed people are more sensitive to risks (Pietromonaco & Rook, 1987), are more negative in their social judgments (Roth & Rehm, 1980) and tend to make more cautious, conservative choices than do non-depressives (Weary & Williams, 1990). However, little work has been done to date on the role of emotional states in interpersonal preferences, and the role of motivational factors in such choices in particular.

Of course, the role of affect in interpersonal behaviour has been recognized for some time. Among others, Schachter (1959) and Sarnoff & Zimbardo (1961) showed that feelings play a major role in affiliative choices, even in superficial, surface contact relationships (Levinger & Snoek, 1972). Preference for partners in a similar predicament may be part of a motivated strategy to control an aversive emotional state, and leads to greater satisfaction (Locke & Horowitz, 1990). In terms of Tesser's (1986) self-evaluation maintenance model, interpersonal preferences may also serve to selectively improve or destroy our self-esteem. Despite extensive recent interest in social cognition, the cognitive processes involved in such motivated choices received little attention to date.

Motivated choice strategies

Current explanations of social judgmental processes are typically based on models of information accessibility and memory assuming relatively unbiased, unmotivated cognitive strategies by subjects (Bower, 1990; Clore & Parrott, 1990; Fiedler, 1990; Forgas & Bower, 1987; Isen, 1984; Schwarz & Bless, 1990). This paradigm essentially assumes 'cold' cognition on the part of the perceivers where feelings, evaluations and preferences only play a role insofar as they become components in a cognitive representational system. The lack of attention to motivational forces in such judgments (Argyle, 1990), and the focus on the isolated, lonely perceiver separated from the social and cultural context (Forgas, 1981) may limit the applicability of these models to relatively atypical choices and judgments. There is a growing recognition that research on the kind of symmetrical, automatic and unbiased information processing implied by many contemporary social cognitive theories may need to be complemented by studies of realistic, motivated social choices (Forgas, 1990).

Indeed, there is strong cumulative evidence for the motivated character of many cognitive processes particularly when it comes to interpersonal choices (Tesser, 1986). Motivated changes in attitudes and self-perception were demonstrated by cognitive dissonance researchers (Wicklund & Frey, 1981). In the decision-making literature (cf. Janis & Mann, 1977; Mann, 1990), motivated strategies are assumed to play a central role in coping with decisional conflict. Mood effects on helping (Carlson, Charlin & Miller, 1988) and reactions to persuasion (Petty & Cacioppo, 1990) are also likely to be mediated by motivational processes. In memory research, Sanitioso, Kunda & Fong

(1990) recently found that motivational states "enhanced the accessibility of memories", and Parrott and Sabini (1990) suggest that motivational factors underlie the selective recall of mood-incongruent memories they observed. Unbiased, non-motivated information processing may well be the exception rather than the rule according to recent research on mood effects on social judgments (Forgas, 1989, 1990). Depending on social and motivational factors, mood may selectively lead to assimilation or contrast effects in judgments (Diener, 1990; Martin, Seta & Crelia, 1990; Schwarz & Bless, 1990; Strack, Martin & Schwarz, 1988).

It is likely that realistic and personally relevant choices, such as decisions about interpersonal preferences, frequently involve motivated information processing strategies, where judges may selectively look for and find information that supports an already established preference; in a sense, preferences come to guide inferences (Zajonc, 1980). Since other people are perhaps the single major source of rewards - and occasionally, also of punishments! - for most of us (Argyle, 1986), interpersonal preferences clearly have a major impact on our happiness and well-being. Interpersonal choices are thus quite likely to involve a motivational element, as classic studies by Schachter (1959) and others suggest.

There are several reasons leading us to expect that negative moods are more likely to lead to motivated interpersonal choices than positive moods. In terms of a mood maintenance model (Clark & Isen, 1982), people in a positive mood should find cognitive tasks aversive, leading them to avoid or simplify problems and use less effortful decision strategies whenever possible (Isen & Means, 1983). Negative mood, in contrast, should motivate people to actively look for information helpful to controlling or eliminating an aversive state. Mood-as-information models have similar implications (Clore & Parrott, 1990; Schwarz & Bless, 1990). In these terms, negative mood can be thought of as a generic signal of a potentially problematic or threatening situation (Frijda, 1986; Schwarz & Bless, 1990), informing the individual that particularly careful, effortful and focussed information processing strategies are required.

Predictions

What are the cognitive consequences of such motivated choice strategies? These experiments were designed to explore how mood-induced motivated processing functions in personally relevant interpersonal choices. We expected that people in negative moods making a personally relevant

choice would be most likely to employ motivated choice strategies in search for potentially rewarding outcomes. In these studies, we asked subjects to choose a partner from several available candidates either for themselves (personally relevant condition), or for somebody else (personally irrelevant condition), while experiencing positive, neutral or negative mood, induced in a prior, and ostensibly unrelated study. We expected motivated processing strategies to be adopted by dysphoric subjects when making a personally relevant choice.

Specifically, it was hypothesized that motivated processing involves (a) the selective search for information about the interpersonal qualities of potential partners, (b) longer self-selected exposure to, and better learning of such details, (c) the superior recall of information relevant to the motivational goals, (d) the use of a global impression formation strategy rather than a systematic comparison-by-features strategy when selecting partners, and (e) overall faster and more efficient choices due to the directed search strategies employed.

Experiment 1.

Experiment 1 was designed as an initial investigation of mood effects on interpersonal preferences and the judgmental strategies used. Previous research of mood effects on complex decisions found either no qualitative differences in the choices made (Isen & Means, 1983), or showed somewhat inconsistent, context-specific results (Forgas, 1989). This experiment sought to explore (a) whether short-term mood states exert a significant and motivational influence on interpersonal preferences, and (b) to evaluate whether memory for partner characteristics is indeed biased due to the hypothesized selective attention to information about rewarding personal qualities, as implied by the use of motivated processing strategies. Subjects in a happy, control or sad mood were provided with information about four potential partners, and were asked to select one partner either for themselves (personally relevant condition), or for somebody else (irrelevant condition). The outcome of their choices, as well as their memory for the details of the targets were assessed, in order to establish the role of mood and motivated processing strategies in such preference choices.

Method

Subjects and design. Subjects were 60 undergraduate students who participated in the study as part of their coursework requirements. Equal numbers of males and females were included in each of the three mood conditions. As no sex differences were found, data for males and females were combined. The study is based on a 3x2 between subjects design, with mood (happy, control, sad) and personal relevance (high, low) as the independent variables.

Stimulus materials. Four realistic target descriptions, each consisting of 12 short sentences were constructed. The first and the last statement were affectively neutral (e.g. 'John lives in an apartment'). Of the remaining ten statements, five contained information about the target's socio-emotional, interpersonal qualities (e.g. friendliness, popularity; 'John has many friends') and five statements contained information about task competence (e.g. skill, intelligence; 'John usually does well on his exams'). To make the characters realistic and plausible, each character contained either positive interpersonal and negative task characteristics (a likeable but incompetent person), or the reverse (a dislikeable but competent character). Two parallel character description sets were constructed, and descriptions in the matched sets were identical in all respects, except for the substitution of one word, changing the valence of the statement (for example, 'good' for 'bad', 'intelligent' for 'unintelligent', etc.). The two sets occurred with the same frequency within each mood condition, and were randomly assigned to individual subjects.

Mood manipulation and procedure. Subjects were tested in small groups of 2-4 people, and were told that two brief but unrelated experiments will be conducted during a one-hour session by two experimenters, in order to save subject time. The first experiment (in reality, the mood manipulation stage) was introduced as a test of verbal abilities. Subjects had 5 minutes to complete a series of 33 sentences, of the kind "Car is to road as train is to ...", with four multiple-choice answer alternatives provided. The sentences ranged from the easy to the difficult, with the last eight questions, although plausible, having no determinate answers (e.g. "Bread is to butter as river is to ..."). An earlier pilot study established that on the average, 19 questions are completed in 5 minutes, with everyone completing at least 13 questions in that time (cf. Forgas, 1989).

Mood was manipulated through the instructions and feedback provided to subjects about their above average or below average performance, in a modification of a previously successfully developed and used technique (cf. Forgas & Bower, 1987; Forgas, Bower & Moylan, in press). All

instructions and feedback information was provided in writing, allowing a high level of standardization of the mood manipulation procedure. In the negative condition, the cover sheet to the test informed subjects that "most people find these questions quite easy and complete all items in the available time". In the positive condition subjects were instructed that "most people find these questions increasingly difficult and rarely complete more than 10 items in the available time". The control group were told that they "should try to complete as many questions as they can, without worrying about difficult or confusing items that may need to be revised". After the 5 minute interval allowed for completing the questionnaire, subjects were given a scoring sheet which showed the 'correct' answers, as well as bogus performance standards validated for "this group of subjects". For the positive mood group, performance between 7-13 correct answers was described as 'average', and over 13 correct answers was described as "above average - your verbal skills are well above average on this task according to the validation standards". For the negative mood group average performance was defined as 27-30 correct answers, and more than 30 questions were described as above average. Performance below 27 questions was described as "below average - your verbal skills are below the average on this task according to the validation standards". As all subjects in fact performed within the predicted 14-25 range, those in the positive condition all received above average marks and positive feedback, and those in the negative mood condition below average marks and negative feedback. In the control condition subjects were simply thanked for their help and told that their responses will be helpful in revising the test. This part of the procedure was concluded by the administration of a 'post-experimental questionnaire' (in fact, a mood validation measure), asking subjects to rate how they felt on three 7-point scales (happy-sad, good-bad, satisfied-dissatisfied) embedded among a number of other distractor items. Finally, subjects were thanked for their help and the first experimenter left the room.

A second experimenter then entered and introduced the preference task as a study in problem solving. Subjects were told that for this task, they will have to work closely together with another person as a team, and it was therefore particularly important that subjects should choose their partners from among four people currently present in the department, and who volunteered to help out with the study. Each of the available partners will be described in a brief "personal profile", based on evaluations of that person by friends, acquaintances and colleagues. In the personally relevant condition, subjects were instructed to select the most suitable partner for themselves; in

the personally irrelevant condition, they were told that "because of difficulties in scheduling, we decided to ask each student to select a partner for the person in the next experimental session".

Subjects were then provided with the four sheets of paper, in random order, each containing the description of a potential partner. They were instructed to select the most suitable partner on the basis of the information available from the files. They were allowed ten minutes to complete this task, which was sufficient in all cases to select a partner. Subjects were next asked to answer a questionnaire (in reality, a filler task) before their free-recall memory for the target characters was assessed. They were given four blank sheets of paper, and asked to "write down, as accurately as possible, the description of each of the people you have read about. Try to remember the descriptions word for word, but if you cannot remember exactly, do the best you can". Ten minutes were allowed to complete this task.

Debriefing. An extensive debriefing concluded the procedure, designed to eliminate the residual effects of the mood induction. Care was taken to explain the aims and rationale of the project in a friendly and informal atmosphere, and the possible perseverance of false feedback manipulations was explained (cf. Ross, Lepper & Hubbard, 1975). All subjects accepted and understood the rationale for the procedure and no evidence of residual negative effects was detected. The debriefing also established that the mood manipulation procedure was accepted at face value by all subjects, and none of the subjects assumed a link between the mood manipulation and the decision task.

Results and discussion

Mood manipulation check. Analyses of variance of the combined mood self-ratings scores indicated significant mood differences between the happy ($X=2.52$), control ($X=3.56$) and sad ($X=4.74$) groups in the predicted direction, $F(2,57)=11.35$; $p < .01$, confirming that the mood manipulation was effective in inducing significantly different mood states.

Interpersonal preferences. Subjects' preference for partners with good task, or good interpersonal qualities was first analyzed. Results showed a significant mood main effect, with a higher proportion of happy subjects selecting task-competent partners (55%), than was the case for control (48%) or dysphoric subjects (42%), who apparently preferred interpersonally rewarding

partners more, $F(2,57)=8.92$; $p < .01$. The significant interaction of mood and the personal relevance of the choice further underscores this effect, $F(2,54)=15.01$; $p < .01$. It seems that dysphoric subjects strongly preferred potentially rewarding, socially skilled partners when making a choice for themselves (67%), but not necessarily for others (49%). In contrast, happy subjects preferred competent rather than socially skilled partners both for themselves (57%) as well as others (53%), consistent with the requirements of a 'cooperative task'.

This finding offers important empirical evidence for mood effects on the outcome of interpersonal preference choices, due to the operation of mood repair strategies (Clark & Isen, 1982). Previous work on mood effects on hypothetical decision-making failed to find conclusive evidence for mood effects on such outcomes (Isen & Means, 1983), probably due to hypothetical decision context used (e.g. choice between fictitious cars) and the lack of personal involvement in the outcome. These results suggest that in interpersonal choices with a personally relevant outcome mood is likely to bias people's preferences. The current results also suggests that, consistent with Schachter's (1959) work over thirty years ago, mood effects on interpersonal choices are probably mediated by motivational factors. The preference for potentially rewarding instead of task-competent partners, despite the requirements of the situation, is consistent with dysphoric subjects applying a motivated processing strategy in their preferences, presumably involving the selective search for, and greater attention to, information about potentially rewarding personal qualities. Such a strategy should ultimately result in better memory for such details, the hypothesis we examined next.

Memory for task vs. interpersonal information. If dysphoric subjects indeed selectively search for information about the rewarding qualities of potential partners, this processing strategy should have as one of its consequences the better recall of such information. In contrast, happy subjects relying on non-motivated, unbiased processing strategies should show no such thematic bias in their recall of information.

Each information unit recalled about details of the target characters was scored on a 0-3 scale (ranging from incorrect recall to perfect recall) by two independent raters who achieved an inter-rater reliability of .792. Results, based on the average of the two ratings, showed that there was a significant overall mood main effect on memory: happy subjects overall correctly recalled a higher

proportion of the original information (49%) than did control (45%) or negative mood (38%) subjects, $F(1,57)=4.93$; $p<.05$. The personal relevance of the choice also influenced memory, with significantly better recall when the choice was personally relevant (47%) than when it was made for somebody else (41%), $F(1,58)=11.52$; $p<.01$. We also found some evidence for a mood-congruent memory bias: happy subjects recalled relatively more positive (54%) than negative (44%) details, and sad subjects remembered more negative (41%) than positive information (35%) about the target characters, $F(2,54)=7.03$; $p<.01$. This pattern of mood-congruent memory is consistent with the selective and more detailed processing of mood-congruent details implied by various mood-priming models (cf. Bower, 1990). In previous studies when subjects' self-exposure to such descriptions was accurately timed, we found that people do spend longer reading and encoding mood-consistent rather than inconsistent materials, with subsequent improved memory for such materials (Forgas & Bower, 1987).

Of greater interest for our purposes was the significant interaction between subjects' mood, the relevance of the choice, and their memory for task vs. social information about the targets, $F(2,54)=21.35$; $p<.01$. As predicted, dysphoric subjects recalled significantly more social (48%) rather than task information (36%), but only when the choice was personally relevant. There were no such memory bias for either control (46% vs. 48%) or happy (49% vs. 53%) subjects, or for any of the mood conditions when making a personally irrelevant choice (Figure 1). This pattern is consistent with the assumption that negative mood leads to motivated processing strategies where people selectively look for, and learn information that is relevant to mood improvement. In the present case, searching for a partner with positive personal qualities, and better remembering such details is consistent with such a strategy.

FIGURE 1 ABOUT HERE

Experiment 1 was thus successful in demonstrating that short-term mood states do have a significant effect on people's interpersonal preferences, and their later recall of information about others. The selective recall of the social qualities of potential partners by dysphoric subjects is likely to be the consequence of a directed, motivated search strategy, paying particular attention to interpersonal rather than task-relevant information in the course of their decision processes. However, the evidence for such processes at this point is rather indirect. Based on Experiment 1 demonstrating significant mood effects on motivated interpersonal choices and corresponding

memory biases, Experiments 2 and 3 were designed to obtain more direct evidence for the operation of motivational biases in such decisions.

Experiment 2.

Experiment 1 showed that mood does have an effect on interpersonal preferences, and that dysphoric subjects making a personally relevant choice do seem to selectively remember information about the social qualities of potential partners. Experiment 2 was designed to obtain more direct and detailed evidence about the order and selectivity of subjects' information search strategies and the precise decision-making processes they employed, in order to demonstrate motivational influences on such choices. The basic design of Experiment 1, manipulating mood and the personal relevance of the choice was maintained. Major changes were made in three areas: procedure, stimulus characters, and mood manipulation. (1) A new procedure was developed, allowing the step-by-step monitoring and recording, and subsequent detailed analysis of the information search and decision-making strategies adopted by subjects as a function of their mood state. (2) A new and larger number of stimulus characters, containing more detailed descriptive information about potential partners was constructed. The use of only four targets may constrain the external validity of Experiment 1, as interpersonal choices may often involve considerably greater complexity and information overload. The observed memory biases could also be partially due to the differential effort subjects spent in trying to interpret and decode potentially ambiguous verbal descriptions that did not allow direct comparisons to be made between potential partners. In Experiment 2, the number of targets was increased to eight, more detailed target descriptions were developed to simulate realistic person preference tasks, and characteristics were presented in comparative terms, making across-target comparisons possible. Instead of using consistently likeable or dislikeable, competent or incompetent target characters - a somewhat unrealistic assumption - in the revised stimulus set, these qualities had to be inferred from multiple, non-uniform features.

(3) Experiment 2 also incorporated a revised mood manipulation procedure. It is possible that the false-feedback mood manipulation used in Experiment 1 may have selectively triggered interpersonal preference strategies which were partly due to the thoughts primed by a recent experience of failure, or were confounded by the direct motivational consequences of an

achievement event, instead of mood per se. To control for this possibility, Experiment 3 employed a new mood induction strategy that involved no success or failure manipulation and was unlikely to selectively prime personally relevant information. We used the presentation of short, pre-selected film sequences with consistent affective consequences as mood manipulators (Forgas et al., in press).

Method

Overview. Following exposure to happy, control or sad films in an allegedly unrelated experiment, subjects were asked to choose one partner from eight potential candidates. The choice was either personally relevant or irrelevant to the judges. Candidates were each described in terms of ten features: sex, age, four characteristics pertaining to their social competence and likeability and four characteristics relevant to task competence. Interpersonal preferences, decision strategies and latencies were analyzed as a function of subjects' mood. The study incorporates an overall 3x2 design, with mood (happy, sad, neutral) and personal relevance (personal-impersonal) as the independent variables.

Subjects. Ninety-six undergraduate students (48 males and 48 females) participated in the study as part of their course requirements, with 32 subjects assigned to each of the three mood conditions. In the absence of sex differences, data for males and females were combined for all analyses.

Stimuli. A new set of eight stimulus characters were developed in order to more accurately simulate the usual complexity of interpersonal preference choices, and to contain more tangible and realistic information about both the likeability and the competence of the targets. The eight potential partners were each described in terms of ten characteristics, each printed on separate cards in 'personnel files'. In addition to sex and age, four characteristics had to do with task competence (intelligence, exam performance, performance on a project, and ratings of competence by a faculty member), and four characteristics described interpersonal qualities and likeability (scores on a test of social skills, and ratings of friendliness, likeability and popularity by peer group members). Sex and age information were randomly varied so that four males and four females between the ages of 18 and 22 were included in each file.

A range of eight comparative values, ranging from the most desirable to the least desirable, were defined on each of the task and the interpersonal characteristics. Each personnel file contained different information, but the average rank value of characteristics within every file was the same. Assuming equal weighting for every feature, there was no rational basis for selecting one person over any other.

Mood manipulation and procedure. The overall experimental procedure was similar to that in Experiment 1. Subjects signed up for two 'unrelated' studies. The first study, in fact the mood manipulation stage, was introduced as involving the selection of appropriate films for a later experiment. The films were presented on a videotape, and subjects were instructed to look at the tapes as they would at home. At the completion of the films, a brief questionnaire asked subjects to rate how they felt at the time on three seven-point bipolar scales embedded among several other distractor items: happy-sad, good-bad and satisfied-dissatisfied. In the positive condition the film contained edited scenes from a successful comedy series. In the neutral condition the film was a documentary about architectural design. The negative mood induction film contained edited scenes from a feature film dealing with a mother dying from cancer. These films were previously validated as effective in inducing the appropriate mood state (cf. Forgas et al., in press). In addition, their efficacy was also assessed here in terms of subjects mood self-ratings following exposure to the films.

At the conclusion of the mood manipulation, a second experimenter introduced the interpersonal preference task the same way as in Experiment 1. In the personally relevant condition, subjects were asked to select the most suitable partner from eight candidates for themselves; in the personally irrelevant condition, they were told to select a partner for the person in the next experimental session.

Subjects were then provided with the eight 'personnel files'. The order of the files, as well as the order of the information cards contained within them was randomized for each subject. Subjects were instructed to sequentially number each of the information cards as they consulted them, and also to rate the usefulness of that information to them at that time on five point not at all useful (0) - very useful (4) scales. They were told that they may look at any item of information in the folders as often as necessary to reach a decision. The beginning and the completion of the decisionmaking

process for each subject was timed. This procedure to record decision-making strategies was previously pilot tested and found to be a feasible and reliable method for analyzing decision processes (cf. Forgas, 1989).

Debriefing. As in Experiment 1, an extensive debriefing concluded the procedure, designed to eliminate any residual effects of the mood induction. No evidence of awareness of the design and objectives of the study was detected.

Results and discussion

Validation of the mood manipulation. The combined mood self-ratings were subjected to an analysis of variance, demonstrating significant mood differences between the happy ($X=2.74$), control ($X=3.69$) and sad ($X=4.49$) groups in the predicted direction, $F(2,93)=18.13$; $p<.01$. As in Experiment 1, the mood manipulation was thus effective in inducing significantly different mood states in subjects.

Interpersonal preferences. Subjects preference for partners who were competent or likeable was assessed by calculating the difference between a chosen partner's average rank on the four task characteristics and average rank on the four interpersonal characteristics. This is an index of relative task vs. interpersonal skill, where positive values indicate greater task skills, and negative values greater interpersonal skills.

Results showed that there was a significant mood main effect, with dysphoric subjects overall preferring partners with desirable interpersonal qualities, while control and happy subjects chose partners with better task than interpersonal competence, $F(2,93)=8.92$; $p<.01$ (Figure 2). The significant interaction of mood and personal relevance further qualifies this effect, however $F(2,90)=15.01$; $p<.01$. It seems that dysphoric subjects strongly preferred potentially rewarding, skilled partners for themselves, but not necessarily for others, $t(30)=15.21$; $p<.01$ (Figure 2). This finding replicates and confirms the results of experiment 1, with a more complex and realistic choice context, and with a different mood manipulation procedure. The combination of negative mood and a personally relevant choice seem to have led to a motivated decision to prefer rewarding partners for the self. No such differences in preference were found in either the control or the positive mood groups.

FIGURE 2 ABOUT HERE.

Analysis of the decision process. The way subjects reached their decisions could be accurately reconstructed from their sequential numbering, and rating of each information unit. From these records and for each subject, the following indices were constructed: (1) overall time taken to reach a decision; (2) number of steps necessary to reach a decision; (3) proportion of information units eliminated (not looked at); (4) rate of repetition (average number of times each unit was considered); (5) proportion of interpersonal minus proportion of task information looked at; (6) the average usefulness rating of interpersonal information minus average usefulness rating of task information; (7) average number of consecutive steps within the same target character (high values indicate an impression formation strategy, dealing with all features of a single character before progressing to the next one); and (8) average number of consecutive steps within one information category (high values indicate a strategy of comparing targets in terms of a single feature).

Clearly these indices may not be mutually independent from each other. In order to construct a smaller set of non-redundant measures of decision strategy, an overall factoranalysis of these measures across all subjects was carried out, specifying the oblique rotation of all factors with Eigenvalues > 1.0 . A three-factor solution, accounting for 64.7% of the variance represented the best combination of these measures, with inter-factor correlations no greater than .20.

The first factor was labelled **decision speed**, and seemed to measure the speed and ease of the decision-making process. This factor was marked by the following measures: number of steps required to reach a decision (.61), average repetition rate (-.54), time taken to reach a decision (.52), and proportion of items not considered (.49).

The second factor was labelled **information bias**, indicating a subject's tendency to preferentially look for task, or interpersonal information. This factor was marked by two measures: average usefulness rating for interpersonal over task information (.63), and average proportion of interpersonal over task information considered (.57). The third factor was labelled **choice strategy**, indicating a judge's tendency to make across-person or across-features comparisons in making a choice. This factor was marked by two indices: average number of consecutive steps within the same person (-.58); and average number of consecutive steps within the same information category (.55).

On the basis of the factoranalysis, three new combined and non-redundant dependent variables were constructed from the linear combination of the standardized original measures using the factor score coefficients as weighting factors. These three new combined dependent measures, **decision speed, information bias and choice strategy** were then subjected to a series of analyses of variance assessing the effects of mood and personal relevance on decisions.

Decision speed. Mood had a significant main effect on this variable, $F(2,93)=5.24$; $p < .01$, with happy subjects reaching a decision significantly faster, in fewer steps, with fewer repetitions and with fewer information units considered than did sad or control subjects (see Figure 3). A significant interaction between mood and the personal relevance of the task, $F(2,90)=7.68$; $p < .01$ qualifies this result. In a happy mood subjects were relatively more efficient in reaching an impersonal rather than a personal decision, $t(30)=7.97$; $p < .01$. This pattern was reversed in negative moods, when subjects took relatively less time to find a partner for themselves than for others, $t(30)=14.36$; $p < .01$. This non-obvious effect is consistent with our expectation that if subjects adopt a motivated processing strategy in negative moods, the resulting directed, selective information processing should lead to faster and more efficient decisions. Consistent with our predictions, only self-relevant decisions should trigger motivated processing, and the benefits of such a directed process should apply only to self-relevant but not to personally unimportant decisions.

FIGURE 3 ABOUT HERE.

Information bias. Were sad subjects more motivated to selectively look for interpersonal qualities in making their choices? In terms the proportion of interpersonal versus task information consulted, and their relative usefulness rating, the answer seems to be 'yes' (Figure 4). Results showed that negative mood led to a significant relative preference for interpersonal information, $F(2,93)=6.98$; $p < .01$. The interaction of mood and personal relevance also showed, however, that this difference was largely due to dysphoric subjects paying disproportionate attention to interpersonal qualities when choosing a partner for themselves, rather than others, $F(2,90)=7.23$; $p < .01$. It appears that dysphoric subjects selectively looked at, and rated as more useful, interpersonal rather task information about potential partners. This selective information bias, not evident in either the control or the positive mood groups, is consistent with the notion of sad

subjects engaging in motivated decision strategies in attempting to make a rewarding partner choice. Selective information search strategies are thus at least partly responsible for the biased interpersonal preference choices demonstrated above.

FIGURE 4 ABOUT HERE.

Choice strategies. Did subjects' mood predispose them towards a particular strategy in making their choice? In selecting a partner, they could either consecutively deal with information about one person in order to construct a 'global' impression, or they could choose to compare several potential partners in terms of one selected characteristic ('comparison-by-features'). Overall, subjects experiencing a negative rather than a positive mood, $F(2,93)=7.89$; $p < .01$, and those making a personally relevant rather than irrelevant decision, $F(1,94)=9.45$; $p < .01$, were significantly more likely to engage in a global, impression formation strategy rather than an analytic, comparison-by-features strategy. We also found a significant mood by personal relevance interaction that showed that this tendency was particularly strong for subjects in a negative mood state making a personal choice, $F(2,90)=7.67$; $p < .01$ (Figure 5).

FIGURE 5 ABOUT HERE.

This pattern provides direct evidence that people do employ quite different cognitive strategies in dealing with interpersonal preferences depending on their mood and the personal relevance of the outcome. Relying on a within-target, impression formation strategy was most likely here by dysphoric subjects making a personal choice. It is this group that we expected to be most influenced by self-serving motives to find a particular kind of partner, and the search for a global impression rather than an analytic, comparison-by-features strategy served this purpose well. In contrast, choices by less motivated subjects were more likely to be based on a more formal, comparison-by-features process. These differences between decision strategies depending on personal relevance were strongest in a negative mood state. In conjunction with the previous results, it seems that dysphoric subjects focussed on identifying interpersonally rewarding rather than task competent partners for themselves, selectively looked for interpersonal information, and sought to form an impression of potential partners in terms of interpersonal features. These findings go considerable way towards establishing the characteristics of motivated choice strategies, and linking such processes to transient mood states. However, motivated processing should also be

reflected in the time spent by subjects consulting various kinds of information categories in making their choices. This was examined in the next experiment, which replicates and further extends the results using a computer-controlled stimulus presentation procedure.

Experiment 3.

Experiments 1 and 2 were successful in showing that temporary mood has a significant influence on a person's interpersonal preferences. It was found that in selecting a partner, different information search and decision-making strategies are used by people depending both on their mood, and the personal relevance of the choice. Experiment 3 was designed to provide additional evidence about the nature of these processes using a more sensitive methodology allowing the controlled presentation of stimulus information and the exact measurement of learning and decision latencies.

The first objective was to replicate the motivated memory biases observed in Experiment 1, this time in conjunction with the careful monitoring of subjects' learning and attention strategies. Secondly, the procedure developed in Experiment 2 to measure the selection strategies used was substantially revised. The need for subjects to number and rate each of the information cards they encountered was somewhat intrusive and may have interfered with the selection process itself. In Experiment 3, an improved computer-administered procedure for presenting target information was developed to allow the precise measurement of subjects' preferred decision strategies without interfering with the process itself. In addition, this procedure also allowed the collection of reaction time data in order to assess informational search biases due to motivated processing.

Finally, Experiment 3 also incorporated a revised mood manipulation stimulus. With any particular mood manipulation technique, there is the possibility that factors other than mood, such as personal memories, cognitions or motivations are also influenced. One way of controlling for this possibility is to use a multi-method approach to ensure that findings are not artifactual but can be reliably obtained with slightly different induction materials. In Experiment 3, a new set of mood induction films were prepared and used as part of the procedure.

Method

Overview. After viewing a new set of mood manipulation films designed to elicit positive, negative or neutral mood states, subjects in an ostensibly separate experiment were once again asked to make interpersonal choices for themselves or others. The overall design and partner descriptions were the same as in Experiment 2. However, through the computerized presentation of the target information it was possible to measure both the time taken and the precise sequence of dealing with each information unit.

Subjects. Forty-two female subjects participated in the experiment as part of their course requirements, with 14 subjects in each mood condition. As no significant sex differences were found in the previous experiments, the use of female subjects was unlikely to limit the validity of the findings.

Mood manipulation and procedure. The experimental design was again similar to Experiment 2. Subjects volunteered for two 'unrelated' studies. The aims of the first study, in reality the mood manipulation, were described as the selection of films for later experiments. Subjects were instructed to watch the videotapes as they normally would at home. This time the happy film contained scenes from a different comedy episode, the control film showed a lecture on art, and the sad film showed edited scenes from a film depicting a young woman suffering a debilitating sporting accident. At the end, a brief questionnaire asking for mood self-ratings inserted among other distractor questions was administered as in Experiment 2.

Stage 2 of the study was introduced the same way as in Experiment 2. However, the information about the potential partners was provided on a computer screen rather than in 'personnel files'. Information about the targets was presented in a matrix form, with individual targets in the columns, and descriptive features in the rows. Subjects were told that they may view any item of information about any target and in any order by selecting the cell corresponding to the intersection of that target and the feature they wanted to find out about. For example, to read about characteristic 2 of target 3, they would have to select cell 23 on the keyboard. After viewing each information unit, they were asked to press the space bar to get back to the overall matrix before selecting the next information unit they wished to look at. Subjects were given a number of practice trials to familiarize themselves with the procedure. The computer was programmed to record not only the precise sequence information units were looked at, but also the time subjects

spent studying each item of information, the time it took to make each choice, as well as the total time spent dealing with the selection problem.

After the completion of the choice task, subjects were asked to complete a brief questionnaire - in fact an interference task - before a free recall test was administered. At this time, subjects were asked to recall and write down as much as they could about each of the target characters they have read about on each of eight sheets of paper. The procedure concluded with a debriefing session along the lines described in the previous experiments.

Results and discussion

Validation of the mood manipulation. An analysis of variance of combined mood self-ratings following exposure to the films showed the expected significant mood differences between the happy ($X=3.04$), control ($X=3.71$) and sad ($X=4.29$) groups in the predicted direction, $F(2,39)=12.22$; $p < .01$. Consistent with previous evidence (Forgas et al, in press), this mood manipulation was again found to be effective in inducing the predicted mood states.

Interpersonal preferences. The same method was employed as in Experiment 2 to measure subjects preference for likeable as against competent partners. Consistent with the previous experiment, sad subjects once again tended to choose people with relatively better interpersonal than task qualities than did happy or control subjects, $F(2,39)=5.81$; $p < .01$, and did so more for themselves than for others, $F(2,36)=7.72$; $p < .01$ (Figure 6). This result confirms the findings of the previous experiments using a different mood manipulation stimulus and a different selection procedure, thus attesting to the robustness of mood effects on interpersonal preference choices.

FIGURE 6 ABOUT HERE.

Decision speed. An analysis of the step-by-step records for each subject showed that mood again had a significant effect on decision speed (as operationalized in Experiment 2). Happy subjects reached a decision faster, in fewer steps, and with fewer repetitions than did sad or control subjects, $F(2,39)=6.33$; $p < .01$. We also found a significant mood by personal relevance interaction, showing that happy mood subjects were faster in making impersonal rather than personal choices, while the reverse was the case in negative mood, $F(2,37)=10.06$; $p < .01$ (Figure 7). The greater speed of sad subjects in making a decision with personal consequences, although superficially

counterintuitive, is consistent with the notion of motivated processing, involving the highly directed and selective search for specific kinds of information about potentially rewarding partners.

FIGURE 7 ABOUT HERE

Mood effects on information bias. A record of subjects' relative preference for interpersonal vs. task-related information was first obtained by calculating the proportion of interpersonal as against task-relevant information units looked at by each subject. There were no main effects. Unlike in Experiment 2, we also failed to find the expected mood by personal relevance interaction effect, consistent with the expectation that dysphoric subjects should look at more interpersonal than task information when choosing a partner for themselves (although a clear trend in that direction was evident in the data).

There are at least two plausible reasons why this effect was not obtained here. The measure of information bias used here was different, and less sensitive than in Experiment 2, as this time it did not include ratings of the perceived usefulness of each information unit. Secondly, the computerised procedure made it relatively easier for subjects to move readily across various information units while bearing in mind the layout of the complete information matrix, thus making the predicted thematic bias in selections less likely to occur. Informational bias with this procedure may be more likely to be revealed by the amount of time subjects chose to spend looking at interpersonal vs. task information, rather than the sheer number of such units examined. We looked at these data next.

Self-exposure to different information units. Mood had a significant main effect on reading times. Dysphoric subjects were overall slower (7.9sec) than were control (6.7sec) or positive mood subjects (5.8sec) in dealing with one item of information, $F(2,39)=23.26$; $p < .01$. This pattern of slower, less efficient information processing in dysphoria and faster processing in happy moods is consistent with other research both with depressed and normal subjects (Bower, 1990; Forgas & Bower, 1987; Isen, 1984; Isen & Means, 1983; Schwarz & Bless, 1990).

There was also a significant interaction between mood and the personal relevance of the choice, $F(2,36)=5.99$; $p < .01$. Not only were happy subjects generally faster in dealing with an information unit, but this tendency was strongest when the choice was irrelevant (5.2sec) rather

than relevant (6.4sec) to them personally. This tends to suggest that reports of more efficient processing in positive moods (cf. Isen & Means, 1983) may be limited to personally uninvolved tasks only. The apparent benefits of positive mood effects for decision efficiency may be reduced or even eliminated as the personal relevance of the task increases.

Of greater interest here is the significant interaction effect we expected and found between mood, the personal relevance of choice, and selective attention to task or interpersonal information by subjects, $F(2,30)=7.11$; $p<.01$. When the choice had no personal consequences, the time spent looking at social or task information in all mood conditions was approximately the same (Figure 8). With a personally relevant choice, however, sad subjects spent significantly longer examining interpersonal rather than task information (8.2sec vs. 7.2sec), $t(12)=12.30$; $p<.01$, and there was a small but non-significant trend in the opposite direction by happy subjects (6.2 vs. 6.6 sec). This pattern suggests that there is a significant bias towards focussing on interpersonal information that occurs only in dysphoria when choosing a personal partner. In conjunction with previous results, this confirms the existence of motivated choice strategies at the micro level of selective exposure to potentially beneficial information (Figure 8).

FIGURE 8 ABOUT HERE.

Latency of information choice. In addition to measuring how long subjects take to look at different information units, the computer also recorded the time elapsed before making each selection (the time between returning to the matrix and making a new choice). Motivated processing should involve reduced choice latencies for preferred information.

Consistent with evidence for the generally faster processing of information in positive moods, there was a significant mood main effect on choice latencies, with sad subjects taking longer to make a selection (5.31sec) than did control (4.88sec) and happy (4.43sec) subjects, $F(2,39)=14.17$; $p<.01$. Once again we found a significant interaction between mood, relevance and latency of choice for interpersonal or task information, $F(2,30)=4.51$; $p<.01$. As expected, sad subjects made up their minds faster to look at interpersonal rather than task information when the choice was personally relevant (4.79 vs 5.58sec), but not when it was irrelevant to them (5.55 vs. 5.31sec). Happy subjects had a slight tendency to choose task information faster than social information both in personally relevant (4.22 vs. 4.53sec) and in irrelevant (4.24 vs. 4.75sec) choice situations, with

similar but smaller differences for control subjects (4.54 vs. 4.91sec; and 4.92 vs. 5.19sec). These results are consistent with the notion that sad subjects engaged in motivated processing to selectively look for interpersonal information, but only when making a personal choice.

Memory for information. At the conclusion of the decision task, subjects were given a memory test asking them to recall as much information as possible about each target. Items recalled were scored from 0 to 3, ranging from incorrect recall to near perfect recall by two independent ratters who achieved an inter-rater reliability of .826. Results showed that mood had only a weak overall main effect on recall performance, with the proportion of information correctly recalled somewhat higher in positive (43.5%) rather than neutral (38.5%) or sad (40%) moods, $F(2,39)=3.92$; $p < .25$. However, consistent with the results of Experiment 1, memory was overall much better for subjects who made a personally relevant (47%) rather than irrelevant (35%) judgment, $F(1,40)=5.93$; $p < .01$, confirming that personal relevance is a major factor in facilitating recall. Overall, subjects remembered task (41.25%) and interpersonal (40.5%) details almost equally well, $F(1,41)=.81$; NS.

Of particular interest here is the significant and predicted interaction effect between mood, the personal relevance of the choice, and memory for task as against interpersonal details, $F(2,30)=8.29$; $p < .01$. We found that when the task was not personally relevant, recall of task and interpersonal details was not significantly different in either happy (39% vs. 34%), control (36% vs. 32%) or sad (37% vs. 32%) moods. When the outcome was personally relevant, however, subjects in a positive mood recalled relatively more task information (54% vs. 46%), and subjects in a negative mood remembered relatively more interpersonal than task details (53% vs 39%). These memory biases are largely consistent with, and are probably the consequence of, the previous findings showing information selectivity and longer self-exposure to interpersonal details by dysphoric subjects.

Mood effects on decision strategies. Using the index described in Experiment 2, we found that subjects selecting a partner for themselves were again significantly more likely to rely on a within-target, impression formation strategy in their choices, $F(1,39)=6.12$; $p < .01$, and this tendency was most marked for subjects in a negative mood state, $F(2,36)=16.31$; $p < .01$. The interaction between mood and personal relevance was only marginally significant, however, indicating a slight tendency for sad subjects to be more likely to adopt an impression formation strategy when making choices

for themselves, but not for others, $F(2,36)=3.76$; $p < .05$ (Figure 9). Although this finding is consistent with results in Experiment 2, the weaker effects obtained here are probably due to the different choice procedures made possible by the computerized presentation of information, allowing non-consecutive selections to be made with far greater ease.

FIGURE 9 ABOUT HERE.

General discussion

The three experiments reported here offer convergent evidence for the importance of temporary moods in interpersonal preference choices. It was found that the combination of sad moods and personally relevant choices clearly led to motivated processing strategies, involving selective, directed search for information relevant to rewarding outcomes, self-serving interpersonal choices and superior memory for such thematically salient information. These effects are markedly different from the kind of automatic, unbiased, and rational processing strategies explicitly or implicitly assumed by most contemporary models of social cognition. While traditional mood-priming models predicting relatively unbiased information search and processing strategies account fairly well for mood effects on less personally involving choices (Bower, 1981; Isen, 1984; Forgas & Bower, 1987), it seems that very different and more motivated choice strategies may be used when the decision is personally relevant. In common with evidence from other fields, our results suggest that the view of social cognition as mostly involving passive, symmetrical, automatic and unbiased cognitive processes needs to be revised (Fiedler, 1990; Forgas et al., in press; Mackie & Worth, 1989; Petty & Cacioppo, 1990; Strack et al., 1988).

Indeed, the role of motivational factors in information processing, such as the need to maintain positive self-evaluations, is increasingly recognized by social cognition researchers (Tesser, 1986). Explanations of cognitive processes involved in decision-making (Mann, 1990), dissonance reduction (Wicklund & Frey, 1981), persuasion (Petty et al., 1990) and some judgments (Forgas et al., in press) have traditionally included a motivational component. More recently, the role of motivation in memory processes has also received growing attention (Sanitioso et al., 1990; Parrott & Sabini, 1990). However, little previous work has been done documenting the precise consequences of motivational states for search and choice strategies in interpersonal preferences.

It is surprising that despite the considerable recent interest in affect and cognition (Fiedler, 1990), the kind of motivated processing demonstrated here was not documented earlier. One likely reason for this is that few, if any studies looked at mood effects on choices with meaningful personal consequences. Consistent with our expectations, it was the combination of high personal relevance and negative mood that was most likely to result in motivated choices. The greater likelihood of targeted, motivated decision strategies in negative mood is consistent with both mood control (Clark & Isen, 1982) and mood as information (Clore & Parrott, 1990; Schwarz & Bless, 1990) theories. However, neither of these theories predicts the kind of selective, thematically biased information processing we found here. It seems likely that an adequate explanation of mood effects on social cognition and judgments may need to postulate a variety of alternative processing strategies available to people when dealing with a particular problem (Forgas, 1990).

The demonstration of substantive processing biases due to mood when making interpersonal choices is also of direct relevance to research on interpersonal behaviour and relationships. At every stage of development (Levinger & Snoek, 1972), relationships between people are maintained by the numerous small, recurring choices and decisions of the partners. The interdependence of affect and cognition in relationships maintenance and development is receiving increasing attention (Fletcher & Fincham, *in press*). The kind of micro-analysis of individual interpersonal choices presented here offers a promising experimental paradigm for studying the various factors that influence partner choices and preferences.

Results from experimental studies such as these are also relevant to our understanding of chronic mood disorders such as depression. As depression usually involves a complex constellation of symptoms, causal links between mood and cognition are difficult to establish. In contrast, in experimental studies with normal subjects we were able to generate 'depressogenic' cognitions in a variety of memory, judgmental and attribution tasks (Bower, 1990; Forgas & Bower, 1987; Forgas et al., 1984). The present results add a new dimension to such findings. Instead of demonstrating the usual passive, mood-consistent bias, we found that dysphoric subjects engaged in directed, motivated choice strategies consistent with a desire to control or eliminate their dysphoria. There is similar evidence for motivated strategies in depressive patients directed at avoiding stressful, demanding or potentially threatening tasks and situations (Ottaviani & Beck, 1988). However, it often appears to be the case that motivated strategies in depressive cognition involve retreat and

avoidance of situations that could also lead to positive, rewarding experiences (Weary & Williams, 1990). Directed at mood-control, such strategies may account for the kind of circular pattern of negative thought and affect that typically characterizes depression. More research exploring in detail the cognitive micro-strategies used by depressives when dealing similar interpersonal choices would be of obvious practical as well as clinical interest.

The notion of motivated processing introduced here complements other work on apparently motivated processes in social memory and judgments. Recent evidence for a bias towards mood-inconsistent memories and judgments in some circumstances (Forgas et al., in press; Parrott & Sabini, 1990) is often explained in cognitive rather than motivational terms. For example, Martin in his ingenious set/reset model proposed that mood-incongruent biases or 'contrast effects' may be due to the "suppressed use of primed concepts" (p. 28, Martin et al., 1990) resulting in the unwitting distortion of the information base of a judgment, but not the information search and processing strategies as such. This is quite different, however, from the kind of selective information search and processing bias demonstrated here which involve the active recruitment of evidence to satisfy a motivational goal. It may be necessary to think about social information processing as involving a variety of alternative information processing strategies, including the kind of selective, directed strategies demonstrated here. As Schwarz & Bless (1990) argue, affect itself may be one of the major sources of information predisposing people to effortful or effortless, motivated or unbiased information processing strategies.

Interpersonal choices are among the most complex and demanding cognitive tasks we face in everyday life. These studies showed that transient mood and the personal relevance of the outcome have significant effects on the way people look for, use and remember information when making such choices. It was also found that 'motivated processing', involving a selective search for rewarding outcomes is most likely to be adopted as a mood-repair strategy by dysphoric subjects making a personal choice. Further research on this important topic is likely to be of considerable theoretical, as well as practical interest to our understanding of interpersonal relationships and the effects of mood on cognition.

References

- Argyle, M. (1986). *The psychology of happiness*. London: Heinemann.
- Argyle, M. (1990). A critique of cognitive approaches to social judgments and social behaviour. In J. P. Forgas (Ed.), *Emotion and social judgments*. Oxford: Pergamon Press.
- Bower, G. H. (1981). Mood and memory. *American Psychologist*, 36, 129-148.
- Bower, G. H. (1990). Mood congruity of social judgments. In J. P. Forgas (Ed.), *Emotion and social judgments*. Oxford: Pergamon Press.
- Carlson, M., Charlin, V., & Miller, N. (1988). Positive mood and helping behaviour: A test of six hypotheses. *Journal of Personality and Social Psychology*, 55, 211-229.
- Clark, M. S., & Isen, A. M. (1982). Towards understanding the relationship between feeling states and social behavior. In A. H. Hastorf & A. M. Isen (Eds.), *Cognitive social psychology*. New York: Elsevier-North Holland,.
- Clore, G. L., & Parrott, G. (1990). Moods and their vicissitudes: Thoughts and feelings as information. In J. P. Forgas (Ed.), *Emotion and social judgments*. Oxford: Pergamon.
- Diener, E. (1990). Challenges in measuring subjective well-being and ill-being. Manuscript, University of Illinois at Urbana-Champaign.
- Fiedler, K. (1990) Mood-dependent selectivity in social cognition. In: W Stroebe & M. Hewstone (Eds.) *European Review of Social Psychology*, Vol. 1. Chichester: John Wiley.
- Fletcher, G. J. O., & Fincham, F. D. (Eds.). (in press). *Cognition in close relationships*. Hillsdale, NJ: Lawrence Erlbaum.
- Forgas, J. P. (Ed.). (1981). *Social Cognition: Perspectives on Everyday Understanding*. London and New York: Academic Press.
- Forgas, J. P. (1989). Mood effects on decision-making strategies. *Australian Journal of Psychology*, 41, 197-214.
- Forgas, J. P. (Ed.). (1990). *Emotion and social judgments*. Oxford: Pergamon Press.
- Forgas, J. P., & Bower, G. H. (1987). Mood effects on person perception judgements. *Journal of Personality and Social Psychology*, 53, 53-60.
- Forgas, J. P., Bower, G. H., & Krantz, S. (1984). The influence of mood on perceptions of social interactions. *Journal of Experimental Social Psychology*, 20, 497-513.

- Forgas, J.P., Bower, G. H. & Moylan, S. J. (in press). Praise or blame? Mood effects on attributions for success or failure. **Journal of Personality and Social Psychology**.
- Frijda, N. H. (1986). **The emotions**. Cambridge: Cambridge University Press.
- Heider, F. (1958). **The psychology of interpersonal relations**. New York: Wiley.
- Isen, A. M. (1984). Towards understanding the role of affect in cognition. In R. S. Wyer & T. K. Srull (Eds.), **Handbook of social cognition** (Vol. 3). Hillsdale, NJ: Erlbaum.
- Isen, A. M., & Means, B. (1983). The influence of positive affect on decision making strategy. **Social Cognition**, 2, 18-31.
- Janis, I. L., & Mann, L. (1977). **Decision making: A psychological analysis of conflict, choice and commitment**. New York: Free Press.
- Levinger, G., & Snoek, J. D. (1972). **Attraction in relationships: A new look at interpersonal attraction**. Morristown, N.J.: General Learning Press.
- Locke, K. D., & Horowitz, L. M. (1990). Satisfaction in interpersonal interactions as a function of similarity in level of dysphoria. **Journal of Personality and Social Psychology**, 58, 823-831.
- Mackie, D. & Worth, L. (1989). Processing deficits and the mediation of positive affect in persuasion. **Journal of Personality and Social Psychology**, 57, 27-40.
- Mann, L. (1990). Stress, affect and risk taking. Manuscript, Flinders University, South Australia.
- Martin, L. L., Seta, J. J., & Crelia, R. A. (1990). Assimilation and contrast as a function of people's willingness and ability to expend effort in forming impression. **Journal of Personality and Social Psychology**, 59, 27-37.
- Ottaviani, R., & Beck, A. T. (1988). Cognitive theory of depression. In K. Fiedler & J. Forgas (Eds.), **Affect, Cognition and Social Behavior**. Toronto: Hogrefe.
- Parrott, W. G., & Sabini, J. (1990). Mood and memory under natural conditions: Evidence for mood incongruent recall. **Journal of Personality and Social Psychology**, 59, 321-336.
- Petty, R.E. & Cacioppo, J.T. (1990). Involvement and persuasion: Tradition versus integration. **Psychological Bulletin**, 107, 367-374.
- Pietromonaco, P. R., & Rook, K. S. (1987). Decision style in depression: The contribution of perceived risks and benefits. **Journal of Personality and Social Psychology**, 52, 399-408.

- Ross, L., Lepper, M., & Hubbard, M. (1975). Perseverance of self-perception and social perception: Biased attributional processes in the debriefing paradigm. *Journal of Personality and Social Psychology*, 32, 880-892.
- Roth, D., & Rehm, L. P. (1980). Relationships among self-monitoring processes, memory, and depression. *Cognitive Therapy and Research*, 4, 149-157.
- Sanitioso, R., Kunda, Z., & Fong, G. T. (1990). Motivated recruitment of autobiographical memories. *Journal of Personality and Social Psychology*, 59, 229-241.
- Sarnoff, I., & Zimbardo, P. G. (1961). Anxiety, fear and social affiliation. *Journal of Abnormal and Social Psychology*, 62, 356-363.
- Schachter, S. (1959). *The psychology of affiliation*. Stanford, Ca.: Stanford University Press.
- Schwarz, N., & Bless, H. (1990). Happy and mindless, but sad and smart? The impact of affective states on analytic reasoning. In J. P. Forgas (Ed.), *Emotion and social judgments*. Oxford: Pergamon Press.
- Strack, F. Martin, L. & Schwarz, N. (1988). Priming and communication: the social determinants of information use in judgments of life satisfaction. *European Journal of Social Psychology*, 18, 429-442.
- Tesser, A. (1986). Some effects of self-evaluation maintenance on cognition and action. In R. M. Sorrentino & E. T. Higgins (Eds.), *The handbook of motivation and cognition: Foundations of social behaviour* (pp. 435-464). New York: Guilford Press.
- Weary, G., & Williams, J. P. (1990). Depressive self-presentation: Beyond self-handicapping. *Journal of Personality and Social Psychology*, 58, 892-898.
- Wicklund, R. & Frey, D. (1981). Motivational processes in cognitive dissonance. In: J.P. Forgas (Ed.) *Social cognition: Perspectives on everyday understanding*. Academic Press, London.
- Zajonc, R. B. (1980). Feeling and thinking: Preferences need no inferences. *American Psychologist*, 35, 151-175.

Figure Captions

FIGURE 1. The effects of mood and personal relevance on the recall of social and task information.

FIGURE 2. Preference for rewarding vs. competent partners as a function of mood and personal relevance (higher values indicate preference for competent rather than rewarding partners).

FIGURE 3. The influence of mood and personal relevance on the speed of interpersonal preference choices (higher values indicate faster and more efficient decisions).

FIGURE 4. Biased information choice in interpersonal decisions: the effects of mood and personal relevance (positive values indicate preference for task vs. social information).

Figure 5. Decision-making strategy as a function of mood and personal relevance (positive values indicate preference for impression formation vs. comparison-by-features strategies).

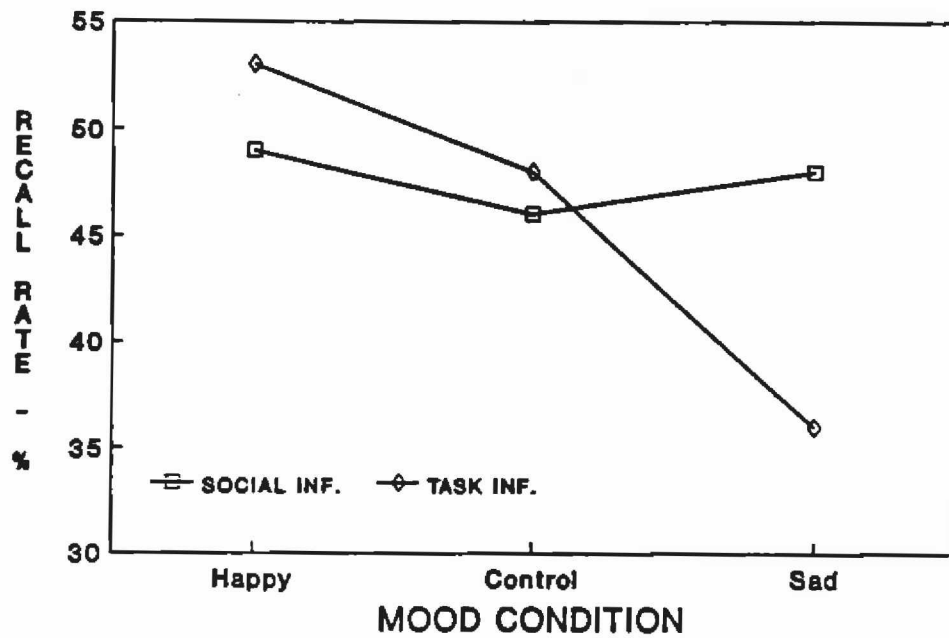
FIGURE 6. Interpersonal preference as a function of mood and personal relevance (higher values indicate preference for rewarding rather than competent partners).

FIGURE 7. The effects of mood and personal relevance on the speed and efficiency of interpersonal choices (higher values indicate faster and more efficient choices).

FIGURE 8. Self-exposure to social vs. task information about potential partners: the effects of mood and personal relevance (in seconds).

FIGURE 9. Decision-making strategy as a function of mood and personal relevance (positive values indicate preference for impression formation vs. comparison-by-features strategies).

MOOD EFFECTS ON RECALL -
PERSONALLY RELEVANT CHOICE



MOOD EFFECTS ON RECALL -
PERSONALLY IRRELEVANT CHOICE

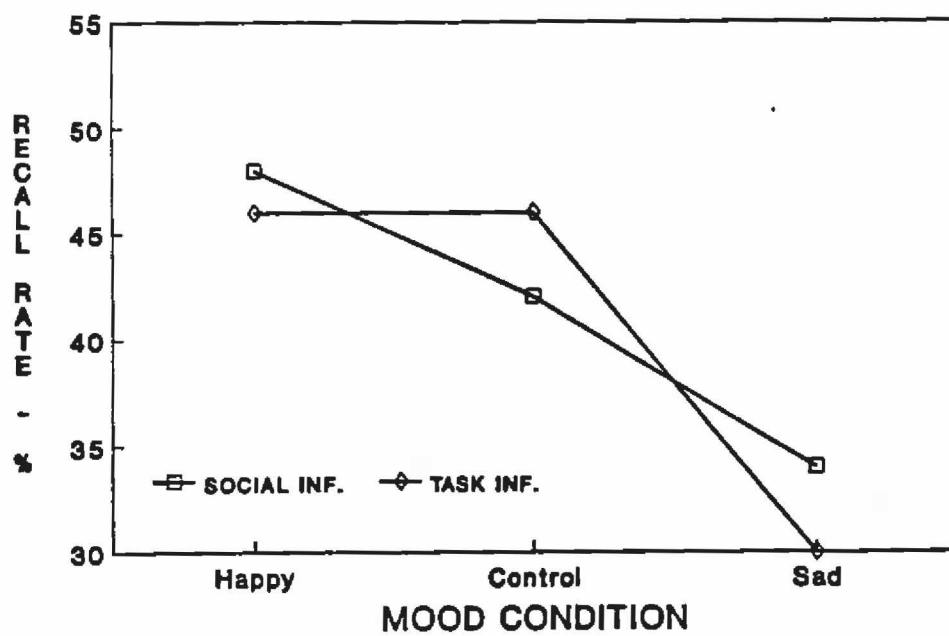
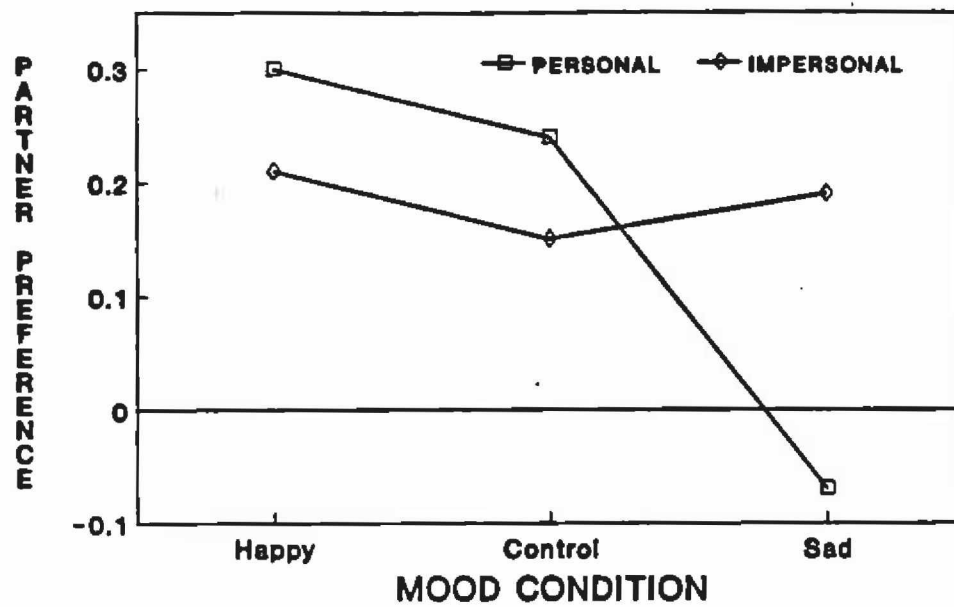


Fig. 1

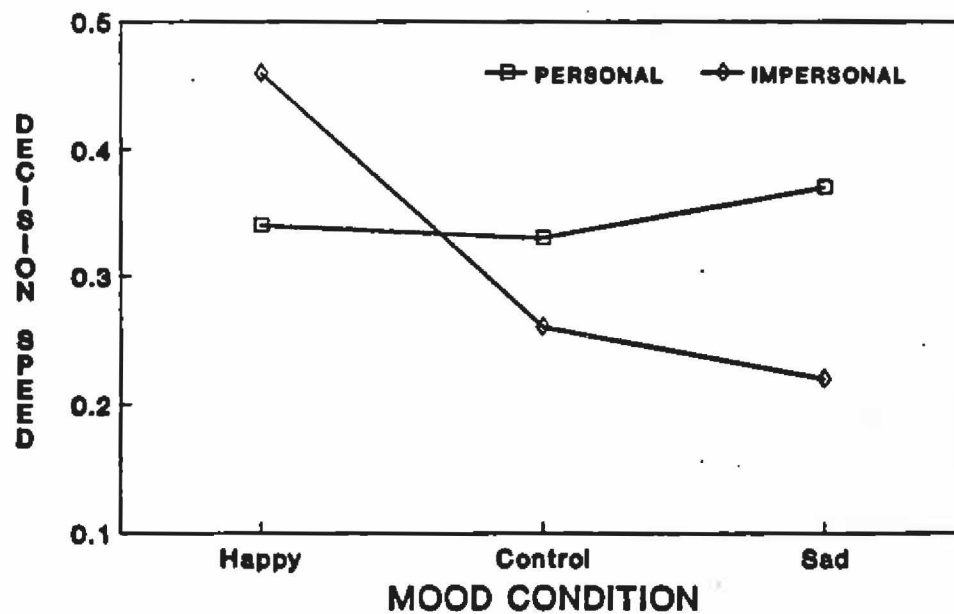
EXP. 2: INTERPERSONAL PREFERENCE AS A FUNCTION OF MOOD AND PERSONAL RELEVANCE



Higher values indicate preference for competent rather than rewarding partners

Fig. 2

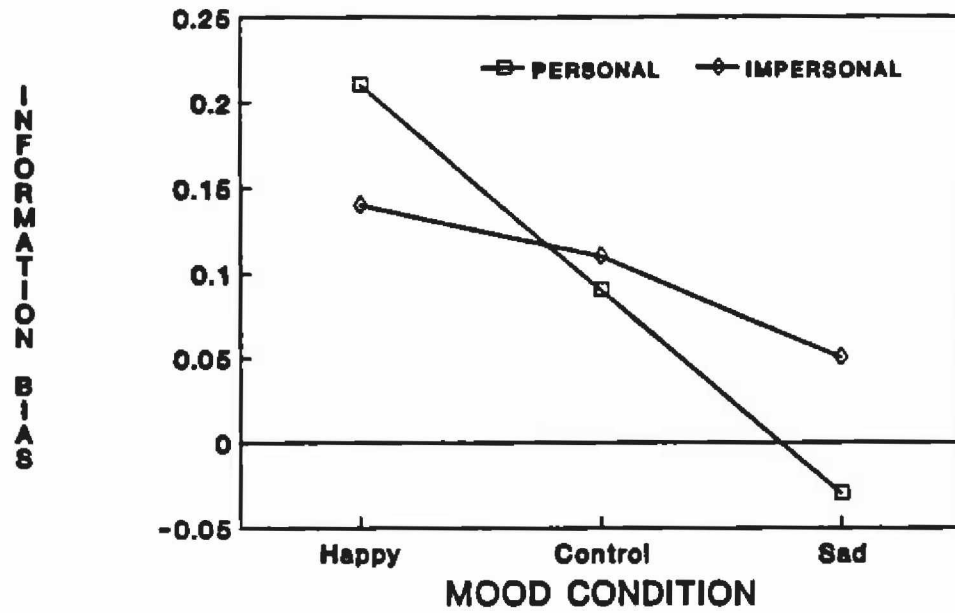
EXP. 2: DECISION SPEED AS A FUNCTION OF MOOD AND PERSONAL RELEVANCE



Higher values indicate faster and more efficient decisions

Fig. 3

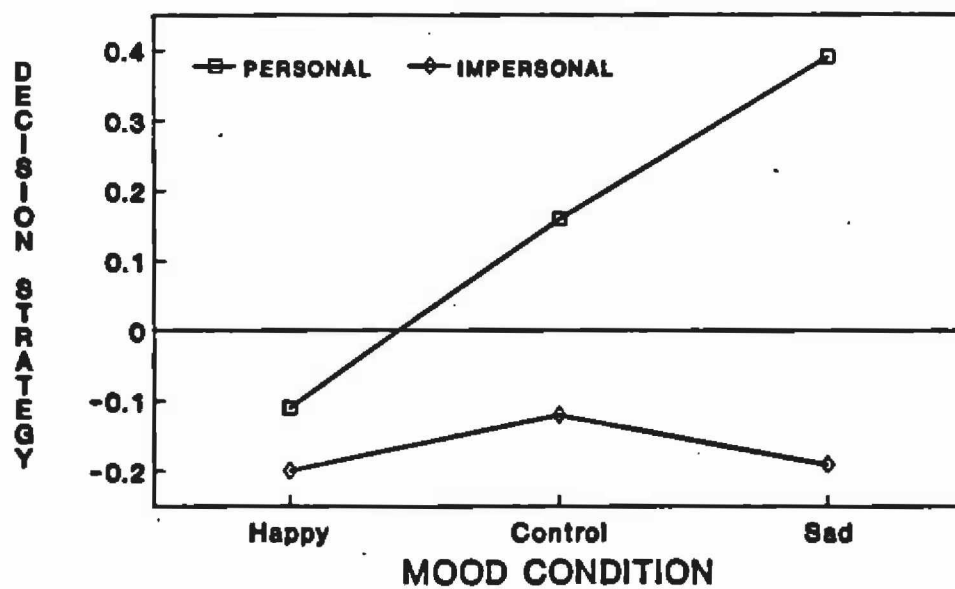
EXP. 2: INFORMATION BIAS AS A FUNCTION OF MOOD AND PERSONAL RELEVANCE



Positive values indicate preference for task rather than social information

Fig. 4

EXP. 2: DECISION MAKING STRATEGY AS A FUNCTION OF MOOD AND PERSONAL RELEVANCE



Positive values show preference for impression formation vs. a comparison-by-features strategy

Fig. 5

EXP. 3: INTERPERSONAL PREFERENCE AS A FUNCTION OF MOOD AND PERSONAL RELEVANCE

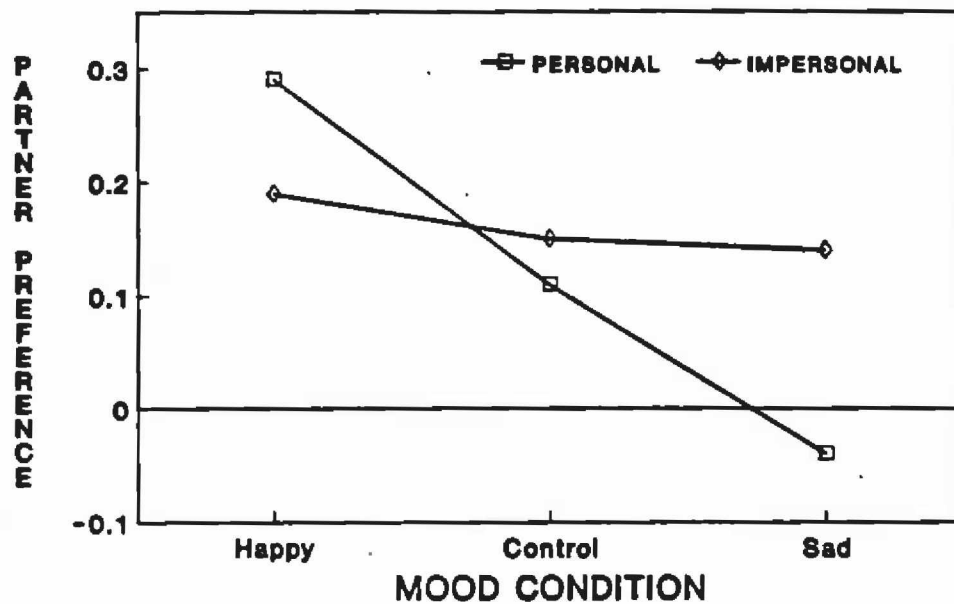


Fig. 6

EXP. 3: DECISION SPEED AS A FUNCTION OF MOOD AND PERSONAL RELEVANCE

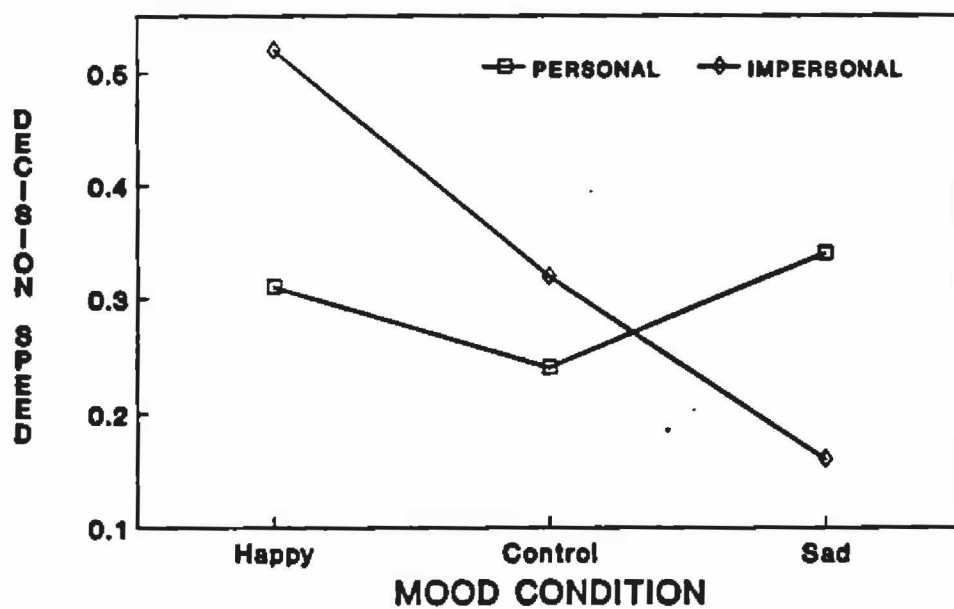
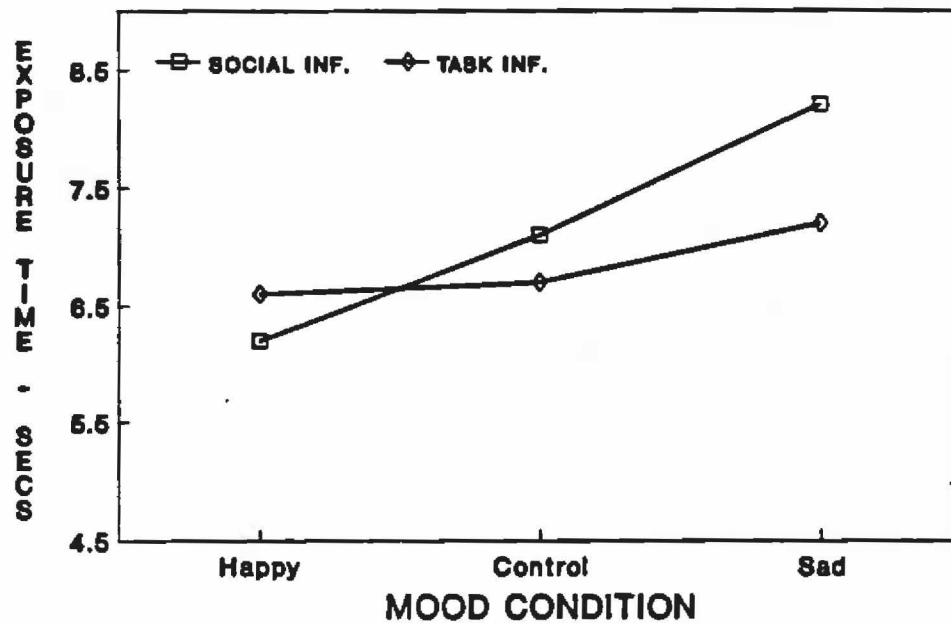


Fig. 7

MOOD EFFECTS ON EXPOSURE TIME - PERSONALLY RELEVANT CHOICE



MOOD EFFECTS ON EXPOSURE TIME - PERSONALLY IRRELEVANT CHOICE

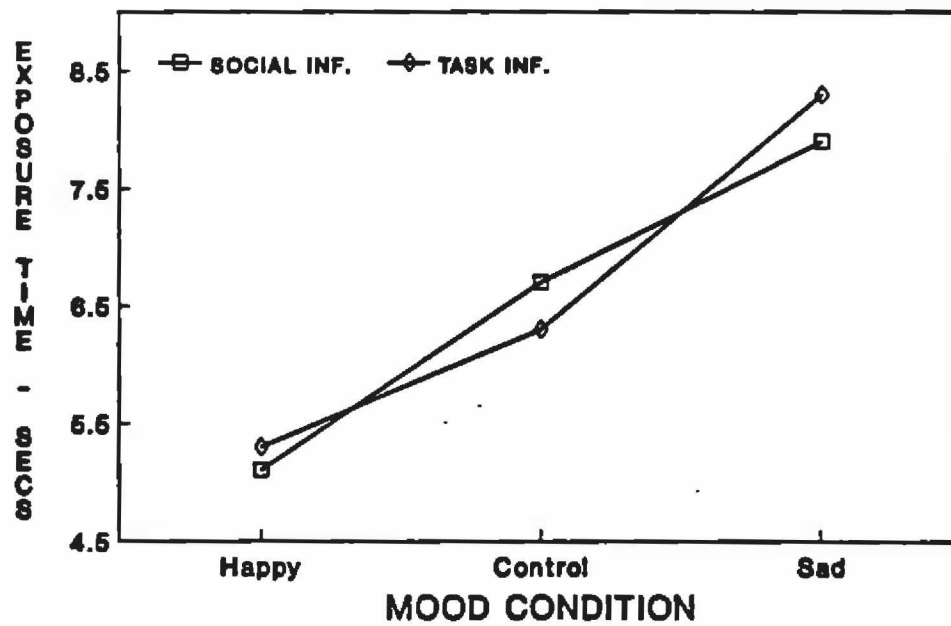
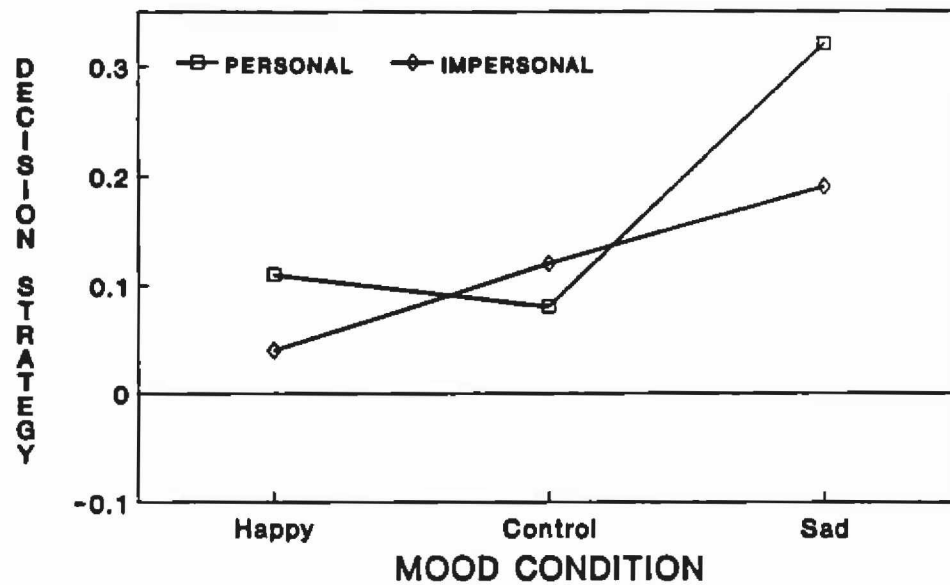


Fig. 8

**EXP. 3: DECISION MAKING STRATEGY AS A
FUNCTION OF MOOD AND PERSONAL RELEVANCE**



Positive values show preference for
impression formation vs. a comparison-
by-features strategy

Fig. 9:

ZUMA-Arbeitsberichte

- 80/15 Gerhard Arminger, Willibald Nagl, Karl F. Schuessler
Methoden der Analyse zeitbezogener Daten. Vortragsskripten der ZUMA-
Arbeitstagung vom 25.09. - 05.10.79
- 81/07 Erika Brückner, Hans-Peter Kirschner, Rolf Porst, Peter Prüfer, Peter
Schmidt
Methodenbericht zum "ALLBUS 1980"
- 81/19 Manfred Küchler, Thomas P. Wilson, Don H. Zimmerman
Integration von qualitativen und quantitativen Forschungsansätzen
- 82/03 Gerhard Arminger, Horst Busse, Manfred Küchler
Verallgemeinerte Lineare Modelle in der empirischen Sozialforschung
- 82/08 Glenn R. Carroll
Dynamic analysis of discrete dependent variables: A didactic essay
- 82/09 Manfred Küchler
Zur Messung der Stabilität von Wählerpotentialen
- 82/10 Manfred Küchler
Zur Konstanz der Recallfrage
- 82/12 Rolf Porst
"ALLBUS 1982" - Systematische Variablenübersicht und erste Ansätze zu
einer Kritik des Fragenprogramms
- 82/13 Peter Ph. Mohler
SAR - Simple AND Retrieval mit dem Siemens-EDT-Textmanipulationspro-
gramm
- 82/14 Cornelia Krauth
Vergleichsstudien zum "ALLBUS 1980"
- 82/21 Werner Hagstotz, Hans-Peter Kirschner, Rolf Porst, Peter Prüfer
Methodenbericht zum "ALLBUS 1982"
- 83/09 Bernd Wegener
Two approaches to the analysis of judgments of prestige: Interindivi-
dual differences and the general scale
- 83/11 Rolf Porst
Synopsis der ALLBUS-Variablen. Die Systematik des ALLBUS-Fragenpro-
gramms und ihre inhaltliche Ausgestaltung im ALLBUS 1980 und ALLBUS
1982
- 84/01 Manfred Küchler, Peter Ph. Mohler
Qualshop (ZUMA-Arbeitstagung zum "Datenmanagement bei qualitativen
Erhebungsverfahren") - Sammlung von Arbeitspapieren und -berichten,
Teil I + II
- 84/02 Bernd Wegener
Gibt es Sozialprestige? Konstruktion und Validität der Magnitude-
Prestige-Skala

- 84/03 Peter Prüfer, Margrit Rexroth
Erfahrungen mit einer Technik zur Bewertung von Interviewerverhalten
- 84/04 Frank Faulbaum
Ergebnisse der Methodenstudie zur internationalen Vergleichbarkeit
von Einstellungsskalen in der Allgemeinen Bevölkerungsumfrage der
Sozialwissenschaften (ALLBUS) 1982
- 84/05 Jürgen Hoffmeyer-Zlotnik
Wohnquartiersbeschreibung. Ein Instrument zur Bestimmung des sozialen
Status von Zielhaushalten
- 84/07 Gabriele Hippler, Hans-Jürgen Hippler
Reducing Refusal Rates in the Case of Threatening Questions: The
"Door-in-the-Face" Technique
- 85/01 Hartmut Esser
Befragtenverhalten als "rationales Handeln" - Zur Erklärung von Ant-
wortverzerrungen in Interviews
- 85/03 Rolf Porst, Peter Prüfer, Michael Wiedenbeck, Klaus Zeifang
Methodenbericht zum "ALLBUS 1984"
- 86/01 Dagmar Krebs
Zur Konstruktion von Einstellungsskalen im interkulturellen Vergleich
- 86/02 Hartmut Esser
Können Befragte lügen? Zum Konzept des "wahren Wertes" im Rahmen der
handlungstheoretischen Erklärung von Situationseinflüssen bei der
Befragung
- 86/03 Bernd Wegener
Prestige and Status as Function of Unit Size
- 86/04 Frank Faulbaum
Very Soft Modeling: The Logical Specification and Analysis of Complex
Process Explanations with Arbitrary Degrees of Underidentification
and Variables of Arbitrary Aggregation and Measurement Levels
- 86/05 Peter Prüfer, Margrit Rexroth (Übersetzung: Dorothy Duncan)
On the Use of the Interaction Coding Technique
- 86/06 Hans-Peter Kirschner
Zur Kessler-Greenberg-Zerlegung der Varianz der Meßdifferenz zwischen
zwei Meßzeitpunkten einer Panel-Befragung
- 86/07 Georg Erdmann
Ansätze zur Abbildung sozialer Systeme mittels nicht-linearer
dynamischer Modelle
- 86/09 Heiner Ritter
Einige Ergebnisse von Vergleichstests zwischen den PC- und Mainframe-
Versionen von SPSS und SAS
- 86/11 Günter Rothe
Bootstrap in generalisierten linearen Modellen
- 87/01 Klaus Zeifang
Die Test-Retest-Studie zum ALLBUS 1984 - Tabellenband

- 87/02 Klaus Zeifang
Die Test-Retest-Studie zum ALLBUS 1984 - Abschlußbericht
- 87/04 Barbara Erbslöh, Michael Wiedenbeck
Methodenbericht zum "ALLBUS 1986"
- 87/05 Norbert Schwarz, Julia Bienias
What Mediates the Impact of Response Alternatives on Behavioral Reports?
- 87/06 Norbert Schwarz, Fritz Strack, Gesine Müller, Brigitte Chassein
The Range of Response Alternatives May Determine the Meaning of the Question: Further Evidence on Informative Functions of Response Alternatives
- 87/07 Fritz Strack, Leonard L. Martin, Norbert Schwarz
The Context Paradox in Attitude Surveys: Assimilation or Contrast?
- 87/08 Gudmund R. Iversen
Introduction to Contextual Analysis
- 87/09 Seymour Sudman, Norbert Schwarz
Contributions of Cognitive Psychology to Data Collection in Marketing Research
- 87/10 Norbert Schwarz, Fritz Strack, Denis Hilton, Gabi Naderer
Base-Rates, Representativeness, and the Logic of Conversation
- 87/11 George F. Bishop, Hans-Jürgen Hippler, Norbert Schwarz, Fritz Strack
A Comparison of Response Effects in Self-Administered and Telephone Surveys
- 87/12 Norbert Schwarz
Stimmung als Information. Zum Einfluß von Stimmungen und Emotionen auf evaluative Urteile
- 88/01 Antje Nebel, Fritz Strack, Norbert Schwarz
Tests als Treatment: Wie die psychologische Messung ihren Gegenstand verändert
- 88/02 Gerd Bohner, Herbert Bless, Norbert Schwarz, Fritz Strack
What Triggers Causal Attributions? The Impact of Valence and Subjective Probability
- 88/03 Norbert Schwarz, Fritz Strack
The Survey Interview and the Logic of Conversation: Implications for Questionnaire Construction
- 88/04 Hans-Jürgen Hippler, Norbert Schwarz
"No Opinion"-Filters: A Cognitive Perspective
- 88/05 Norbert Schwarz, Fritz Strack
Evaluating One's Life: A Judgment of Subjective Well-Being
- 88/06 Norbert Schwarz, Herbert Bless, Gerd Bohner, Uwe Harlacher, Margit Kellenbenz
Response Scales as Frames of Reference:
The Impact of Frequency Range on Diagnostic Judgments

- 88/07 Michael Braun
Allbus-Bibliographie (7. Fassung, Stand: 30.6.88)
- 88/08 Günter Rothe
Ein Ansatz zur Konstruktion inferenzstatistisch verwertbarer Indices
- 88/09 Ute Hauck, Reiner Trometer
Methodenbericht
International Social Survey Program - ISSP 1987
- 88/10 Norbert Schwarz
Assessing frequency reports of mundane behaviors:
Contributions of cognitive psychology to questionnaire
construction
- 88/11 Norbert Schwarz, B. Scheuring (sub.)
Judgments of relationship satisfaction: Inter- and intraindividual
comparison strategies as a function of questionnaire strcuture
- 88/12 Rolf Porst, Michael Schneid
Ausfälle und Verweigerungen bei Panelbefragungen
- Ein Beispiel -
- 88/13 Cornelia Züll
SPSS-X. Anmerkungen zur Siemens BS2000 Version
- 88/14 Michael Schneid
Datenerhebung am PC - Vergleich der Interviewprogramme "interv⁺"
und "THIS"
- 88/15 Norbert Schwarz, Bettina Scheuring
Die Vergleichsrichtung bestimmt das Ergebnis
von Vergleichsprozessen:
Ist - Idealdiskrepanzen in der Partnerwahrnehmung
- 89/01 Norbert Schwarz, George F. Bishop, Hans-J. Hippler, Fritz Strack
Psychological Sources Of Response Effects in Self-Administered
And Telephone Surveys
- 89/02 Michael Braun, Reiner Trometer, Michael Wiedenbeck,
Methodenbericht. Allgemeine Bevölkerungsumfrage der
Sozialwissenschaften - ALLBUS 1988 -
- 89/03 Norbert Schwarz
Feelings as Information:
Informational and Motivational Functions of Affective States
- 89/04 Günter Rothe
Jackknife and Bootstrap:
Resampling-Verfahren zur Genauigkeitsschätzung
von Parameterschätzungen
- 89/05 Herbert Bless, Gerd Bohner, Norbert Schwarz und Fritz Strack
Happy and Mindless?
Moods and the Processing of Persuasive Communications
- 89/06 Gerd Bohner, Norbert Schwarz und Stefan E. Hormuth
Die Stimmungs-Skala: Eine deutsche Version des "Mood Survey"
von Underwood und Froming

- 89/07 Ulrich Mueller
Evolutionary Fundamentals of Social Inequality, Dominance
and Cooperation
- 89/08 Robert Huckfeldt
Noncompliance and the Limits of Coercion:
The Problematic Enforcement of Unpopular Laws
- 89/09 Peter Ph. Mohler, Katja Frehsen und Ute Hauck
CUI - Computerunterstützte Inhaltsanalyse
Grundzüge und Auswahlbibliographie zu neueren Anwendungen
- 89/10 Cornelia Züll, Peter Ph. Mohler
Der General Inquirer III -
Ein Dinosaurier für die historische Forschung
- 89/11 Fritz Strack, Norbert Schwarz, Brigitte Chassein, Dieter Kern,
Dirk Wagner
The Salience of Comparison Standards and the Activation of
Social Norms: Consequences for Judgments of Happiness and their
Communication
- 89/12 Jutta Kreiselmaier, Rolf Porst
Methodische Probleme bei der Durchführung telefonischer
Befragungen: Stichprobenziehung und Ermittlung von Zielpersonen,
Ausschöpfung und Nonresponse, Qualität der Daten.
- 89/13 Rainer Mathes
Modulsystem und Netzwerktechnik.
Neuere inhaltsanalytische Verfahren zur Analyse von
Kommunikationsinhalten.
- 89/14 Jutta Kreiselmaier, Peter Prüfer, Margrit Rexroth
Der Interviewer im Pretest.
Evaluation der Interviewerleistung und Entwurf eines
neuen Pretestkonzepts. April 1989.
- 89/15 Henrik Tham
Crime as a Social Indicator.
- 89/16 Ulrich Mueller
Expanding the Theoretical and Methodological Framework of
Social Dilemma Research
- 89/17 Hans-J. Hippler, Norbert Schwarz, Elisabeth Noelle-Neumann
Response Order Effects in Dichotomous Questions:
The Impact of Administration Mode
- 89/18 Norbert Schwarz, Hans-J. Hippler, Elisabeth Noelle-Neumann,
Thomas Münkelt
Response Order Effects in Long Lists:
Primacy, Recency, and Asymmetric Contrast Effects
- 89/19 Wolfgang Meyer
Umweltberichterstattung in der Bundesrepublik Deutschland
- 89/20 Michael Braun, Reiner Trometer
ALLBUS Bibliographie (8. Fassung, Stand: 30.6. 1989)

- 89/21 Günter Rothe
Gewichtungen zur Anpassung an Statusvariablen.
Eine Untersuchung am ALLBUS 1986
- 89/22 Norbert Schwarz, Thomas Münkkel, Hans-J. Hippler
What determines a "Perspective"?
Contrast Effects as a Function of the Dimension
Tapped by Preceding Questions
- 89/23 Norbert Schwarz, Andreas Bayer
Variationen der Fragenreihenfolge als Instrument
der Kausalitätsprüfung: Eine Untersuchung zur Neu-
tralisationstheorie devianten Verhaltens
- 90/01 Norbert Schwarz, Fritz Strack, Hans-Peter Mai
Assimilation and Contrast Effects in Part-Whole
Question Sequences:
A Conversational Logic Analysis
- 90/02 Norbert Schwarz, Fritz Strack, Hans-J. Hippler, George Bishop
The Impact of Administration Mode on Response Effects in
Survey Measurement
- 90/03 Norbert Schwarz, Herbert Bless, Gerd Bohner
Mood and Persuasion: Affective States Influence the
Processing of Persuasive Communications
- 90/04 Michael Braun, Reiner Trometer
ALLBUS-Bibliographie 90
- 90/05 Norbert Schwarz, Fritz Strack
Context Effects in Attitude Surveys:
Applying Cognitive Theory to Social Research
- 90/06 Norbert Schwarz, Herbert Bless, Fritz Strack,
Gisela Klumpp, Annette Simons
Ease of Retrieval as Information:
Another Look at the Availability Heuristic
- 90/07 Norbert Schwarz, Fritz Strack, Hans-J. Hippler
Kognitionspsychologie und Umfrageforschung:
Themen und Befunde eines interdisziplinären Forschungsgebietes
- 90/08 Norbert Schwarz, Hans-J. Hippler
Response Alternatives:
The Impact of their Choice and Presentation Order
- 90/09 Achim Koch
Externe Vergleichsdaten zum ALLBUS 1984, 1986, 1988.
- 90/10 Norbert Schwarz, Bärbel Knäuper, Hans-J. Hippler,
Elisabeth Noelle-Neumann, Leslie Clark
Rating Scales:
Numeric Values May Change the Meaning of Scale Labels
- 91/01 Denis J. Hilton
Conversational Inference and Rational Judgment

91/02 Denis J. Hilton
 A Conversational Model of Causal Explanation